

Appl. No.: 10/619,647  
Reply to Office Action of: 03/31/2004

REMARKS

Claims 3 and 15 were rejected under 35 U.S.C. §112, second paragraph. The examiner is requested to reconsider this rejection. The term "compound curvature" would be understood by a person skilled in the art. Paragraph 0028 uses the term. Figs. 2 and 3 show the two curvatures which combine to form the compound curvature at the contact area of the second contact arm. For example, after receiving the office action, applicant's attorney performed a search on the USPTO web site for patents having the terms: "compound curvature" and "contact" and "electrical connector". There were 16 patents. A search just on the term "compound curvature" resulted in 751 patents. The term is not vague or indefinite, and would be understood by a person skilled in the art. Therefore, the examiner is requested to withdraw this rejection.

Claims 1-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Harper, Jr. et al. (US 6,375,474 B1) in view of Lin et al. (US 6,217,348 B1). Claims 1 and 9-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Grabbe (US 5,228,861) in view of Lin et al. (US 6,217,348 B1). Claims 9, 10 and 13-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Harper, Jr. et al. (US 6,375,474 B1) in view of Lin et al. (US 6,217,348 B1) and Grabbe (US 5,228,861). The examiner is requested to reconsider these rejections.

Claim 1 has not been amended above. Claim 1 claims a fusible element fixedly attached to an end of the cantilevered deflectable first contact arm, and that the first and second

Appl. No.: 10/619,647

Reply to Office Action of: 03/31/2004

contact arms are adapted to deflect when the contact area of the second contact arm is contacted by the second pad of the second electronic component. In the past, fusible elements were attached to stationary portions of contacts as shown in Lin et al. However, Lin et al. does not disclose or suggest mounting the fusible element to a movable, deflectable portion of the contact. Applicant has found that by mounting the fusible element to a deflectable portion of the contact, and by using both contact arms for deflection, the connector can be smaller than previously provided, but still provide adequate deflection and contact force of the contact for good wiping of the second contact arm against the second pad (see paragraphs 0004-0005 and last sentence of paragraph 0035 of the application).

Harper, Jr. et al. has deflectable contact arms 15, 17 and 115, 117, but they have contact areas 118, 120 for contact wipe (see Fig. 6a, column 4, lines 4-8). Likewise, Grabbe has contact tips 30, 34 to effect a wipe of the pads by the contact tips. As noted by Grabbe at column 5, lines 21-28:

"This wiping action has been demonstrated repeatedly to provide a superior electrical interface, wiping films and oxidation products, debris, insulation and dust particles and smearing over microscopic plating holes to assure a low resistance, stable electrical interface between contact and pad."

Both Harper, Jr. et al. and Grabbe teach the use of only wiping action of the contacts against the pads of the mating electrical pads. There is no disclosure or suggestion of

Appl. No.: 10/619,647  
Reply to Office Action of: 03/31/2004

using a fusible element on a deflectable contact arm which is intended for wiping action during deflection. There is no suggestion, express or implied to use the fusible element of Lin et al. on one of the contact arms of Harper, Jr. et al. or Grabbe. This suggestion only arises after reading the present patent application. Therefore, claim 1 is patentable and should be allowed. The examiner is requested to reconsider his rejection of claim 1.

Though dependent claims 2-12 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comment will be made.

Claim 13 has been amended above to clarify applicant's claimed invention. In particular, claim 13 claims that the base of each terminal comprises tabs which extend through the carrier and are deformed with the tabs extending back towards a main section of the base to form a stapled connection of the base with the carrier. Fig. 12 of Grabbe shows two tabs 22' which extend through holes 15 and extend outwardly away from each other. However, there is no disclosure or suggestion of a stapled connection wherein the tabs 22' extend back towards a main section of the base after they pass through the holes 15. The tabs 22' are merely shown as extending outward; not back towards a main section. The features of claim 13 are not disclosed or suggested in the art of record. Therefore, claim 13 is patentable and should be allowed.

Appl. No.: 10/619,647  
Reply to Office Action of: 03/31/2004

Though dependent claims 14-20 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 13. However, to expedite prosecution at this time, no further comment will be made.

Claim 21 has not been amended above. Claim 21 is a method claim. Claim 21 claims attaching a fusible element to an end of the cantilevered deflectable second contact arm, wherein the first and second contact arms are adapted to deflect in opposite directions towards the base when the contact assembly is compressed between two electronic components. As noted above with respect to claim 1, in the past, fusible elements were attached to stationary portions of contacts as shown in Lin et al. However, Lin et al. does not disclose or suggest mounting the fusible element to a movable, deflectable portion of the contact.

Applicant has found that by mounting the fusible element to a deflectable portion of the contact, and by using both contact arms for deflection, the connector can be smaller than previously provided, but still provide adequate deflection and contact force of the contact for good wiping of the second contact arm against the second pad (see paragraphs 0004-0005 and last sentence of paragraph 0035 of the application).

Harper, Jr. et al. has deflectable contact arms 15, 17 and 115, 117, but they have contact areas 118, 120 for contact wipe (see Fig. 6a, column 4, lines 4-8). Likewise, Grabbe has contact tips 30, 34 to effect a wipe of the pads by the contact tips. Both Harper, Jr. et al. and Grabbe teach the

Appl. No.: 10/619,647  
Reply to Office Action of: 03/31/2004

use of only wiping action of the contacts against the pads of the mating electrical pads. There is no disclosure or suggestion of using a fusible element on a deflectable contact arm which is intended for wiping action during deflection. There is no suggestion, express or implied, to use the fusible element of Lin et al. on one of the contact arms of Harper, Jr. et al. or Grabbe. This suggestion only arises after reading the present patent application. Therefore, claim 21 is patentable and should be allowed. The examiner is requested to reconsider his rejection of claim 21.

Though dependent claim 22 contains its own allowable subject matter, this claim should at least be allowable due to its dependence from allowable claim 21. However, to expedite prosecution at this time, no further comment will be made.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issue remain, the examiner is invited to call applicant's attorney at the telephone number indicated below.

Appl. No.: 10/619,647  
Reply to Office Action of: 03/31/2004

Respectfully submitted,

Mark F. Harrington

Mark F. Harrington (Reg. No. 31,686)

6/16/04

Date

Customer No.: 29683  
Harrington & Smith, LLP  
4 Research Drive  
Shelton, CT 06484-6212  
203-925-9400

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

6/16/2004

Date

Elaine F. Man  
Name of Person Making Deposit